Koo, L.C., Ho, J.H.C., Ho, C., Matsuki, H., Shimizu, H., Mori, T., Tominaga, S. "Personal Exposure to Nitrogen Dioxide and Its Association with Respiratory Illness in Hong Kong" Am Rev Respir Dis 141: 1119-1126, 1990.

SUMMARY: In 1985, 362 primary schoolchildren and their 319 mothers were surveyed in Hong Kong to study the possible relationship of air pollution to respiratory illnesses. Using nitrogen dioxide (NO2) measured by personal samplers as a measure of air pollution, the study aimed to identify the major sources of No2 in the indoor environment and see whether its increased presence was associated with respiratory symptoms. The levels of NO2 among the mothers was found to increase by 21% if dust exposure was reported from the workplace, 18% if they used such cooking fuels as liquid petroleum gas or kerosene, 11% when kitchens did not have ventilating fans, and 10% when incense was burned at home. In terms of respiratory symptoms, an increase in NO2 levels of 19% was reported among those with allergic rhinitis and 18% among those with chronic cough. The levels of NO2 among children were correlated with levels measured in classrooms, all of which had opened windows so that the NO2 came from outdoors. No association was found between children's NO2 levels and respiratory symptoms. With the exception of smoking by the father and the children's NO2 levels, no association was found between smoking at home and NO2 levels.